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ABSTRACT

One of five modules in the administrative series of the 16-module series designed to train vocational education curriculum specialists, this module is intended for use in classes or individual study arrangements at the preservice or inservice level by students with varying amounts of experience in vocational education. (These modules are revised versions of earlier study guides--see note.) Introductory materials include an overview, instructions to the learner, detailed list of behavioral goals and objectives, and resources needed to complete learning activities. The module is divided into three sections, each based on one of the goals. The first section examines the process of effecting change in vocational education. Terms are defined, characteristics of people most likely to accept innovations are described, and characteristics of innovative programs most likely to be accepted are discussed. The second section focuses on the role of the change agent. In the final section are overviewed the various stages of the change process. Each section follows a standard format: text, individual study activities, discussion questions, and group activities. A summary of the module follows. Appendixes include a glossary, suggested responses to the study activities, a self-check, responses to the self-check, and recommended references. (YLB)

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VOCATIONAL EDUCATION CURRICULUM SPECIALIST

PREPARING FOR CURRICULUM CHANGE

Module 15

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

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a project to field test vocational education curriculum specialist materials

AMERICAN INSTITUTES FOR RESEARCH

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PREPARING FOR CURRICULUM CHANGE

Module 15

Judith A. Appleby

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Introduction

The purposes of this module are to provide curriculum specialists with information on the change process in education and to help them develop some of the skills and abilities needed to plan for and enact curriculum change. Curriculum change may involve the revision of program goals, instructional procedures, or a single course; the addition or deletion of units of instruction or courses from a program; the alteration of training program requirements; the development of completely new programs; change in the focus of the vocational program; or the elimination of entire programs or courses.

In the early 1920s, vocational teachers were recruited from the ranks of outstanding practitioners in occupational areas. The recruits were to transmit the skills, knowledge, and lore of their trades or occupations to students who had decided to follow in their footsteps.

The narrowly defined mission of these early teachers is in sharp contrast to the challenges faced by vocational teachers and leaders today. For example, vocational educators are now instructing large numbers of minority students and migrant students from rural societies; physically and mentally handicapped students, who need to be brought into the mainstream of society; and unemployed victims of technological change.

The skilled practitioner is still needed to transmit the "know-how" of his or her vocation. But occupational knowledge and skills are no longer sufficient qualifications for the vocational educator. Curriculum development in vocational education requires knowledge of the process of change in satisfying the demands of the labor market, students, and technological changes within occupations. Today, the vocational educator must also be an innovator and a change agent.

This module is a companion to other modules in this series that deal with managing and providing staff development for vocational education programs.

Overview

Certain generalizations about human behavior are basic premises of this module:

- People resist change; change may be threatening to one's feeling of self-worth and security

- A person's active participation in planning for change is an important factor in one's acceptance of change

- New knowledge, skills, attitudes, and/or abilities are needed to effect change

In addition, it has been assumed that change in curriculum is change in instruction, and therefore that the instructor is a key instrument in change. At the same time, it has been assumed that any major change requires the full support of administrators at all levels and of those who participate in the financial support of vocational education.

The first section of this module defines some of the terms commonly used in the study of change; it discusses the characteristics of people most likely to accept change and the characteristics of innovative programs most likely to be accepted.

The module then focuses on the general functions of the change agent--the person or organization that makes it possible for planned change to take place. Finally, the module provides an overview of the various stages of the change process. Evaluation, problem identification, the selection of a solution, the implementation of the solution, and the monitoring of the solution are all discussed here. The module provides criteria for use in determining whether to adopt an innovative program and describes steps that might be taken to ensure that a newly adopted program will be maintained.

Instructions to the Learner

Self-Check items and possible responses to them are found in the appendices. These questions have two purposes. First, before you begin work on the module, you may use them to check quickly whether you have already learned the information in previous classes or readings. In some instances, with the consent of your instructor, you might decide to skip a whole module or parts of one. The second purpose of the Self-Check is to help you review the content of modules you have studied in order to assess whether you have achieved the module's goals and objectives.

You can also use the list of goals and objectives that follows to determine whether the module content is new to you and requires in-depth study, or whether the module can serve as a brief review before you continue to the next module.

Goals and Objectives

Goal 1: Examine the process of effecting change in vocational education.

Objective 1.1: Define terms commonly used in the study of the diffusion of educational programs, including the following: client, dissemination, diffusion, implementation, innovation, user, integrated approach, and sequential approach.

Objective 1.2: Describe the characteristics of people most likely to accept innovations.

Objective 1.3: List and describe at least five of the nine attributes of innovative programs that are most easily accepted.

Goal 2: Describe the role of the change agent.

Objective 2.1: Identify four interpersonal skills that are required of a change agent.

Objective 2.2: Describe five general functions of a change agent.

Goal 3: Describe the process of planned change in vocational education.

Objective 3.1: Identify human and material resources that can be utilized to initiate, implement, or evaluate a curriculum change.

Objective 3.2: Describe procedures that help ensure that a newly adopted program will be maintained.

Objective 3.3: Identify evaluative criteria for assessing an innovation in vocational education.

Resources

You will not need additional publications to complete the learning activities in this module.

GOAL 1: Discuss the process of effecting change in vocational education.

Why Change?*

Most observers agree that we are beyond debating the inevitability of change. They further agree that a major constant is the tendency toward movement, growth, development, and progress--i.e., change. The new and contemporary aspect of change is the swinging of the pendulum from debates concerning change versus no change to debates concerning the best methods to be employed in controlling and directing the forces that influence change. The implication is that effecting change in vocational education, like effecting change in other types of social institutions and subinstitutions, involves social action and social policy. Some critics claim that education is not closely bound to the social trends and rapid changes that characterize contemporary American society. Although this claim is partially correct, major efforts are underway to change this pattern.

Planned Change

All efforts described in the literature to control and direct change have been labeled with the generic term, planned change. Planned change establishes an environment, an atmosphere, a setting, or a posture in which change away from the traditional is constant, continuous, and self-renewing for the organization.

Education as a social institution has always been greatly influenced by social and technological change and has attempted to adapt to it. But mere adaptation does not necessarily constitute planned change. Traditionally, the educational institution has attempted to serve as a transmitter of culture, a

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* Adapted from Wall, E. Review and synthesis of strategies for effecting change in vocational and technical education. Columbus, OH: The Ohio State University, Center for Vocational and Technical Education, 1972.

"conservative" function. More recently, in addition to being a transmitter of culture, education has attempted to serve as an agent of innovation and change, a "progressive" function.

In fact, the function of the school is becoming increasingly more comprehensive. The school is expected to develop the capacity of the individual to learn; to share responsibility with the family and home for developing the individual's capacity to live in this culture; to prepare the individual to earn a living; and to prepare and retrain students as technological progress changes the conditions of employment.

Vocational education in particular is influenced by the forces of change. Vocational programs must be sensitive to the performance requirements of the marketplace and employers. They must be responsive to a relatively free labor market in which laws of supply and demand for marketable skills operate. No other types of educational programs are as radically affected by fluctuations in economic and related psychological and social conditions as are those in vocational education.

The Terminology of Educational Change

The study of educational change has a terminology all its own. Some of the more common terms are discussed below and in the glossary appended to this module.

Diffusion is the process of transmitting information about an innovation to a user of the innovation. The general term diffusion includes the sequential stages of dissemination, implementation, and utilization. The entire diffusion process also can be considered in terms of five phases: awareness, interest, evaluation, trial, and adoption. The awareness and interest phases correspond to the dissemination stage--the potential user learns about the innovation and then seeks more detailed information about it. The evaluation and trial phases correspond to the implementation stage--the potential user examines the possible value of the innovation for his or her purposes and is willing to implement the innovation on a tryout basis. The adoption phase corresponds to the utilization stage when the user accepts the innovation on a full-scale basis.

Diffusion literature often uses the term client to refer to the potential user. The change agent is the person who facilitates planned innovation. She or he may be a member of the agency that developed the innovation or a member of the staff of the potential user. She or he may also be external to both groups. The role of the change agent is discussed in more detail later in this module.

An integrated approach to diffusion requires the change agent to participate in all phases of an educational innovation: planning, development, dissemination, implementation, and utilization. When the diffusion plan is considered only after the program has been developed, it is not an "integrated" plan; it is "sequential." An integrated plan for diffusion is preferable because the program has a much better chance of being appropriate for the potential users and, therefore, of being adopted.

When the vocational education curriculum specialist acts as a change agent, he or she must listen to people who present problems; analyze the problems and the needs of the users; suggest alternative solutions; and help to implement and revise the innovation so that it satisfies the users.

Characteristics of People Likely to Accept Innovations

Many studies have contrasted early knowers of an innovation to later knowers. The portrait that emerges of the early knower reveals more formal education, more social participation, greater exposure to interpersonal channels of communication, and greater change agent contact.

Early adopters of an innovation have similarly been contrasted with later adopters. An identical portrait emerges for early adopters. They are better educated, more socially oriented, in tune with interpersonal communication channels, and regular users of change agent services. In addition, they manage larger units, rely more heavily on scientific know-how, take greater risks, and have higher aspiration levels. Early adopters have more favorable attitudes toward change and enjoy a higher degree of opinion leadership in their environment.

When researchers focused on the characteristics of opinion leaders, they learned that these individuals were more innovative than their followers, were more cosmopolitan, and enjoyed a higher social status. Again, opinion leaders regularly utilized the services offered by change agents.

Attributes of Innovative Programs That Are Most Easily Accepted

Innovations that meet with easy acceptance generally exhibit the following characteristics:

- Easy to understand and use
- Can be experimented with on a limited basis

- Have product or process outcomes that are immediately visible
- Are relatively low in cost
- Have acceptable training, servicing, storage, and planning requirements
- Have reasonable space requirements and size

Some Precautions Concerning Change Strategies

No single strategy is a panacea for all ills. On the other hand, vocational educators who develop numerous new programs, curricula, and special projects in vocational education run the risk of "over-choice"--the point at which the advantages of diversity offered to the student are cancelled by the complexities of the career decision-making process.

A few vocational educators prefer to deal with those areas that they can change easily. They tend to keep on functioning out of comfort and habit and do not really want to get involved in candid assessments of what they do or--what is more important, perhaps--what they do not do. Changes of a more pervasive and comprehensive nature are resisted. For instance, changing from one program guide or text for teaching in a specific vocational area to a more recently updated one is relatively simple. It requires only that the teacher make the adoption. Conversely, implementing an entirely new career education curriculum for grades K-14 requires a vastly different approach. It probably would require changing the attitudes, beliefs, and behavior patterns of all personnel in the entire local school system, as well as members of the community.

Despite the difficulties involved, a planned change strategy that is characterized by comprehensiveness and pervasiveness in its approach seems to have a greater probability of success than one that is less so.

Individual Study Activities

1. Define the following terms as they are used in the dissemination and implementation of innovations.

   - change agent
   - client
   - dissemination
   - diffusion
   - implementation
   - innovation
   - integrated approach to diffusion
   - user

2. List five characteristics of people most likely to accept innovations.

3. With what type of people will the change agent have the best results when trying to gather initial support for an innovation?

4. Most innovations that meet with the easiest acceptance exhibit six principal attributes. List and describe as many of these six attributes as possible.

5. a. What is the difference between an integrated approach and a sequential approach to development and diffusion? Explain.

   b. Why is the integrated approach more effective than the sequential approach?

Discussion Questions

1. Provide examples you have seen of the following types of diffusion outcomes:

   a. Failures due to no plan for diffusion

   b. Failures due to a "sequential" plan for diffusion

   c. Successes due to an "integrated" plan for diffusion

2. Which attributes of successful innovative programs seem most critical in vocational education programs? Explain your reasons.

3. Which attributes of successful innovative programs seem least critical in vocational education programs? Explain your reasons.

4. "If teachers must be retrained in order for a change to be made, the chances for success are reduced unless strong incentives to be retrained are provided." Discuss the meaning and importance of this statement.

GOAL 2: Describe the role of the change agent.

Functions of the Change Agent

A change agent might be a research coordinator, a student, a publisher's representative, a director of federal programs, a teacher, or a member of a technical assistance center. Frequently the vocational education curriculum specialist will serve as a change agent. The change agent must possess interpersonal skills that allow him or her to build a relationship with the client. There are five general functions the change agent must perform in building this relationship. They include involving potential users in the development and selection of programs; informing potential users about programs; demonstrating the effectiveness of programs; training program staff to use the innovative programs; and servicing and maintaining implemented innovations.

Involving Potential Users in the Development and Selection of Programs

Early functions of the change agent include diagnosing the needs and interests of program users, evaluating the benefits of alternative programs, studying the feasibility of funding and using programs, and adapting programs to fit the needs of users. It is crucial to involve potential users, community members, unions, major employers, and youth groups at this stage. The dynamics of technological change are so rapid that the involvement of business and industry along with the teachers is crucial. Building and maintaining a link between the consumer and the development team is the most critical role performed by the change agent. Failure in this role can result in unused programs, unmet user needs, and loss of credibility with the community, school district, and students.

Informing Potential Users About Programs

Early dissemination activities include writing information brochures and organizing demonstrations and conferences to inform selected audiences about programs relevant to their situations.

Until recently, educational innovations occurred so infrequently that there was little need for systematic information. Today, information must systematically be made available in ways that help the practitioner reach sensible professional judgment.

Demonstrating the Effectiveness of Programs

Demonstration activities include setting up field test demonstration sites and organizing visits; instituting "trial runs" in schools to allow for firsthand observation and evaluation; and providing data and evaluations on previous uses of the program.

In the past, the typical demonstration was arranged to convince the practitioner of something by showing her or him that it was feasible. But these traditional demonstrations often failed: first, because they were set up in unrealistic situations, such as university laboratory schools; and second, because they did not provide the practitioner with an opportunity to assess the innovation. Today, the function of the demonstrator is to create credible situations where the practitioner can gather relevant information about the innovation and its consequences.

Training Program Staff to Use the Innovative Programs

Training activities might include running Saturday or summer workshops; serving as a consultant to teachers in the early stages of new-product use; arranging for site visits and conferences between current users and potencial users; and running periodic refresher seminars.

The training of potential adopters makes sense, especially if the innovation requires new skills and knowledge to make it work effectively. Few educators are so secure that they will risk their reputations by trying out an innovation they are not expert in using. It seems likely that the availability of inservice training is responsible in great measure for the success of such innovations as the curricular materials in metal technology and the computers in machining and agribusiness that utilize both programmed and computer-oriented instruction. The innovation should be practiced until it becomes a routine procedure. For more information on staff development, see the module in this series devoted to this topic.

Servicing and Maintaining Implemented Innovations

Servicing activities include providing technical assistance to maintain equipment; providing updated versions of the innovation as they appear; and ensuring that lost materials are replaced without disruptive delays in the program.

At some point, an innovation must be converted by the users into a regular part of the ongoing operation. This often means new physical, personnel, or financial resources. Innumerable instances have been reported in which innovative projects, whose funds were exhausted, returned to the traditional ways of doing things. As a consequence, continuous change did not take place.

Since the initial enthusiasm for an innovation usually wanes, the resulting lowered efficiency must be compensated for by further resources and support. Unless such resources are to be regularly available, there is little point in adopting the innovation in the first place.

Individual Study Activities

1. Read each of the following case descriptions of how programs were developed and implemented; then answer the questions that follow.

Case 1

A research organization conducted a national study on the need for specific types of vocational training programs for the severely handicapped. Its study showed that vocational programs for the blind are feasible in your geographic and subject area. It identified several industries that would hire the blind if they were trained. The representatives of the research organization helped your district get federal funding for the program, trained the teachers on the special instructional and learning problems of the blind, and provided the necessary supplies and equipment.

a. If you were employed by the school district involved, what would be your functions as a change agent?

Case 2

You are employed by a school district to administer vocational education classes. One day a representative of the bakers' union comes to your office and asks you to start a program to train pastry chefs. You are interested, so you visit the bakery and hear about the shortage of pastry chefs. After many meetings with the local union, pastry chefs, and your school personnel, you determine that a program is feasible. At this point, your supervisor calls in a development company to do a task analysis and develop a curriculum. This company then designs the program, and in about one year you are ready to start enrolling students in your pastry-making class.

a. Should the change agent have taken a more active role in the development of the program?

b. What dangers are there when an outside agency develops the program unaided by school personnel?

c. What would you have tried to do differently if you had been the change agent?

Case 3

You are employed by a school district to administer vocational education programs. One day, while talking with several students in the carpentry class, you learn that the students and teacher would like to try to repair school buildings as part of their course. It sounds like a good idea, so you talk to the carpentry teacher, the school principal, and the district director. They are all encouraging, so you go back to the students and the teacher to get more information on what they want. Together you work out the details of a new program and develop the curriculum guide. By the next semester, the course is ready to be used on a tryout basis. You and the teacher evaluate the effectiveness of the course by using previously agreed-upon criteria; you also make modifications in the course as the semester progresses.

At the end of a year and after many revisions, all--you, the teacher, the students, and the district director--agree that the course was a success, and it will be continued for at least one more year.

a. Could the change agent have done more to involve the community in the program? Might this have been useful?

b. How would you plan for more community involvement?

Discussion Question

1. As a change agent, it is important to identify the most powerful and influential people in your community. In vocational education they are usually your Advisory Committee representatives and the organizations they represent. Who are they in your community, and how do they usually react to innovation? Are they usually conservative or progressive?

Group Activity

This activity is directed toward identifying the functions of change agents.

Directions: Using personal experience as a base, each class member should complete the following two grids. The first relates to a comprehensive high school, the second to a postsecondary vocational school or community college. Across the top are potential change agents in the curriculum process.

Listed in the left column are functions of curriculum change. Mark an "X" in the square of three change agents who would be most likely to play a significant role regarding each function. After the grids have been completed, students should divide into smaller groups of four or five who will discuss and compare the grids. It will probably be discovered that more than three persons will carry out various responsibilities. The three selected as most likely by each student will be affected by the student's experience.

COMPREHENSIVE HIGH SCHOOL

	School Board	Principal/Superintendent	Voc. City Supervisor/ Voc. Dept. Chairman	SBUE/Voc. State Supv.	Counselors	Vocational Teacher(s)	Advisory Committee	Vocational Students	Vocational Graduates	Employees/Union/ Trade Groups	Vocational Professional Organization	State Employment Center/ Department of Labor	Vocational Teacher Educator	Audiovisual Staff
Developing Vocational Budget (all programs)														
Funding a New Vocational Program														
Recruiting a New Teacher														
Determining Student Interest in Vocational Education														
Assessing Employment Outlook														
Recruiting Students														
Selecting Students														
Obtaining Materials and Equipment														
Developing Visual Aids														
Obtaining Space for New Program														
Developing Overall Vocational Goals														
Developing Individual Vocational Program Objective														
Evaluating Vocational Programs														
Conducting a Vocational Needs Assessment														
Scheduling Students														
Developing a Vocational Public Relations Program														
Determining Credits/Units for Vocational Programs														
Examining Labor Regulations														
Scheduling Vocational Teachers														

POSTSECONDARY VOCATIONAL SCHOOL/COMMUNITY COLLEGE

	Board of Education	Dean/Director	SBVE Voc. State Supervisor	Counselors	Vocational Teacher(s)	Advisory Committee	Vocational Students	Vocational Graduates	Employees/Unions/ Trade Groups	State Employment Center/ Department of Labor	Vocational Teacher Educator	Vocational Professional Associations	Curriculum Committee (Institutional)
Fund a New Vocational Program													
Develop Vocational Budget (all programs)													
Determine Student Interest in Vocational Education													
Recruit Students													
Select Students													
Obtain Materials and Equipment													
Obtain Supplies													
Develop Overall Vocational Goals													
Develop Individual Vocational Program Objective													
Assign Space													
Evaluate Vocational Programs													
Conduct a Vocational Needs Assessment													
Schedule Teachers													
Develop Vocational Public Relations Program													
Determine Credits/Units for Vocational Programs													
Examine Employment Regulations													
Obtain Approval for a New Program													

GOAL 3: Describe the process of planned change in vocational education.

Planned Change in Vocational Education*

Planned change in vocational education is cyclical and includes evaluation; problem definition; and selection, implementation, and monitoring of an innovative solution.

Evaluation

During the evaluation stage, planners and others desiring to effect change take a look at "what is." They obtain information on the characteristics, needs, and employment opportunities of the population being served. They also analyze trends that show population, occupational, and technical changes. To determine "what is," the curriculum specialist might carry out one or more of the following activities:

- Discussions among local vocational education staff members, followed by meetings with other school staff or citizen groups
- Reviews of previously established program goals to determine the extent to which they have been met
- Student follow-up surveys that show career patterns, job satisfaction, geographical and socioeconomic mobility
- Special follow-up surveys of program dropouts
- Reviews of self-evaluations carried out for accreditation purposes

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* Adapted from Wall, J. E. Review and synthesis of strategies for effecting change in vocational and technical education. Columbus, OH: Ohio State University, Center for Vocational and Technical Education, 1972.

- Reviews of findings of student vocational interest surveys

- Surveys of parents' and faculty members' attitudes toward vocational education

- Surveys of local businesses, industries, and firms (these can be used to supplement data obtained from the local Employment Development Office).

All data should be subjected to critical appraisal in terms of their: (1) source, reliability, validity; (2) pertinence to vocational education planning; (3) analyses and interpretations; and (4) manner of presentation. For further information on evaluation activities, consult the module in this series devoted to program evaluation.

Problem Definition

The evaluation will either justify the program as it exists or point up problems that need attention. These problems should receive detailed examination. What is sometimes stated as a problem may, in actuality, be only a "symptom" of some deeper-seated problem. For instance, it has been stated that students tend to drop out of school because of "lack of interest." Was it lack of interest in a course or courses? If so, would more comprehensive vocational education offerings reduce the dropout rate?

The problem definition stage should result in the formulation of tentative program goals. The goals should be reexamined annually by the staff and modified, if necessary, to reflect recent experiences, research, and suggestions from advisory committees and councils.

Select a Solution

Most problems can be solved in more than one way. Criteria must be established to determine how tentative solutions will be judged or compared with each other. The values and aspirations of the educational system will determine the criteria used. At this stage, individuals inside and outside the local school system should be consulted.

All possible solutions should be reviewed, the consequences of each weighed, probabilities of success assigned, and a single solution to each problem selected. Selected solutions must be compatible with each other and with decisions already made that

affect the remainder of the school system and the community. Once solutions are selected, the tentative goals stated earlier should be reviewed, revised as necessary, and adopted.

A benefit and cost approach to selecting solutions is described below. The answers to the questions listed here can provide information to help you make a more rational decision.*

BENEFITS

Individual Student Growth

Rate of learning. What effect will the solution have on the rate of student learning?

Scope of learning. How does the solution affect the number and type of learning experiences and/or skills to which the students will be exposed?

Attitude. What effect on attitudes can be attributed to the solution (i.e., community, students, teachers, administrators)? Are there any experiences that assist the students in the development of their self-concepts and their abilities to relate to other individuals?

Program Operations

Efficiency. What information is available that will allow a cost/benefit analysis of the solution? How does this analysis compare to the present status or other alternatives?

Effectiveness. What evidence indicates the solution can achieve the required objectives to our satisfaction?

Society and the Economy

Entry and advancement in an occupation. What effect does the solution have on increasing the opportunities to acquire job-entry skills? Does the solution include activities that will contribute to promotion and satisfaction on the job?

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* Hull and Wells. The classification and evaluation of innovations for vocational and technical education. U.S. Department of Health, Education, and Welfare, 1972.

Economic and social efficiencies. What effect will the solution have on productivity and costs to society in relation to such items as wages, occupational mobility, and school drop-out rate?

Social values. What attempts will be made to create an awareness of society in the students through teaching concepts concerning institutions, laws, cultures, and social problems?

Community involvement. What benefits will accrue to the school and community after installing the solution? What effect will the solution have on such items as school and community relations, and the public image of the school?

Credibility

Validity. What evidence indicates that the solution can achieve its objectives?

Reliability. Where has the solution been tested previously? How similar are these settings to our situation?

Assurance Contract

Warranty. To what extent does the developer and/or promoter warrant the soundness of the solution? Who is responsible for assuring the services of the solution?

Operational assistance. What types of consultation and services are provided by the sponsoring agency to assure the effectiveness of the product?

COSTS

Funding

Costs. What is the cost per unit over time? Will the solution involve a saving?

Sources of dollars. How can the solution be funded? Must the cost be borne locally, or is assistance available wholly or in part from state, federal, or public sources such as foundations? What are the possibilities of reallocating present budget items to accommodate installation?

Availability of dollars. What processes and/or procedures must be followed to acquire the necessary funding? Is the local educational agency in a position to expend its own money and be reimbursed later, or are funds from other sources available prior to expenditure?

Proportion of dollars available from different sources. In what proportion are funds available from other sources? Do matching funds have to be local funds?

Limitations of use of other than local funds. What limitations are placed on the use of other funds? Can funds be used for instruction only, equipment and instruction, or equipment, supplies, and instruction? Can funds be used for items such as construction, food, transportation, or consultants?

Time Considerations

Installation time. How much time does it take to get the solution working?

Lead time. What deadlines are placed on activities prior to the operating date? How much time is necessary to order and receive items such as texts and materials? How much time is necessary to order, receive, and install equipment? Will the solution require teacher orientation or advanced teacher planning time?

Planning time. How much time must be devoted to planning by a teacher, coordinator, or administrator during each week?

Operation time. What amount of time is required by the solution in daily preparation, classroom activities, meetings, etc.?

Cyclical considerations. What characteristics of the solution dictate that it be installed at a particular time during the calendar or academic year?

Installation Considerations

Acceptance. What barriers can be anticipated from the community, school personnel, or students concerning the solution?

Complexity. What is the extent of involvement necessary to install the solution? How many staff members, students, schedules, classrooms, laboratories, or schools are involved?

Divisibility. What are the requirements concerning extent of installation? Can it be trial tested by the adopting unit before complete installation of the total product?

Policy changes. What changes in policy on the state and local level are necessary in order for the solution to be successful (i.e., procedure for a field trip on local level; certification changes on state level)?

Degree of development. Is the solution in an installable form or does it require more development? Are additional materials or training activities necessary?

Feasibility. What evidence is there to indicate that the solution will work in our situation?

Adaptability. What adjustments can be made to meet local conditions without damaging the authenticity of the solution?

Organizational Change

Disruption of routine. What interruption of routine is required by the solution due to rescheduling of classes, retraining of teachers, sharing of facilities, etc.?

Effect on staff organization. What effect will the solution have on the present structure? Does it create a need for a separate division or department?

Role change for individuals. What changes in duties and/or responsibilities are necessary for successful operation of the solution?

New relationships among groups. What new kinds of relationships among departments or grade levels will be necessary for successful operation of the solution?

Personnel Needs

Quantity of staff. What additions to the staff are required? How many part-time or full-time people per unit are needed?

Teaching or other experiences. What staff experiences are necessary for successful operation of the solution? Do leaders need to have a knowledge of the community?

Personnel development required by the innovation. What requirements are necessary for the development of certain role attitudes, skills, and competencies not presently possessed by personnel? Is the present staff capable of and willing to handle the personnel development necessary for the success of the solution? Are consultants available?

Space Requirements

Space (Housing). Are present facilities sufficient? If not, what physical facilities are necessary to house the solution?

Space (Land Use). What acreage is necessary for installing the solution?

Arrangement of space relative to other programs. Does the success of the solution require close proximity to ongoing programs or present facilities? On the other hand, is a separate location desirable?

Acquisition of needed space. What are the options for acquiring needed space for the solution (e.g., donation, purchase, lease, rent, build)?

Equipment Requirements

Hardware. What are the major items of equipment or their components necessary for the operation and success of the solution?

Software. What supplies are necessary for the operation of the solution?

Implement the Solution

New programs must be equipped, scheduled, budgeted, staffed, and publicized. Strategies to accomplish these tasks are described in the module in this series devoted to the topic of management of vocational education programs.

To encourage successful implementation, relevant information must constantly be provided to all persons in a program. This helps to create an environment favorable to future change efforts. Program personnel should have pertinent information ahead of outsiders and they should get it in a manner that shows that the issuing person or agency is pleased to provide

them with it. Suggestions for providing staff development activities are discussed in depth in another module in this series.

Monitor the Solution

Regularly scheduled meetings, properly conducted, are vital to good communication within an organization. At this time announcements are made and program activities, problems, and procedures are reviewed. Based on these reviews, adjustments are made to enhance the probability that desired outcomes will be accomplished. A flexible program that allows for changes in the user system and in technology is likely to be maintained.

Once effective monitoring procedures have been established, the program is ready to be evaluated and the planned change cycle begins again.

Individual Study Activities

1. Situation

You are the director of a large, comprehensive vocational-technical postsecondary school. The school board has mandated an extensive review of all existing programs and courses. It has also requested suggestions for new programs and strategies for their implementation. You are given major responsibility for the project and are to report periodically to the board, with your final report due in nine months.

Directions:

- On the following grid, listed on the left are the major functions necessary to evaluate, plan, and implement curriculum change. Across the top are the names of vocational school personnel under your supervision. For each function, mark "MR" for the person to whom you would delegate major responsibility for the function. File a copy of the grid with the instructor.

- Take a blank grid to a vocational director and have the director complete it. Compare your choices and discuss the differences.

- Compare grids with classmates and revise your grid.

- Compare your final grid with your original grid (filed with instructor). Note any differences and justify the reasons for the changes.

GRID FOR STUDY ACTIVITY 1

	Director (You)	Assistant Director	Teachers	Department Heads	A/V Technician	Clerical Staff	Counselors	Advisory Committee	Other (Please State)
Select and Organize Advisory Committee									
Report to Board									
Conduct Student Follow-up									
Develop Program Cost Analysis									
Conduct Student Interest Survey									
Conduct Employment Survey									
Evaluate Space Allocation									
Examine State Funding Possibilities									
Develop Proposals for State Funding									
Develop Individual Program Budget Requests									
Prepare Overall Budget Requests									
Develop Program Goals									
Evaluate Programs									
Determine Staff Needs and Scheduling									
Develop Public Relations Program									
Determine Student Schedules									
Review Labor Regulations									
Prepare Board Reports									
Prepare Visual Aids for Board Reports									
Develop Course Sequencing									
Develop Proposed Course Outlines									
Develop Overall Philosophy									

2. What criteria might you use to assess whether to adopt an innovation in vocational education?

Group Activities

1. Using your personal experiences related to a vocational education curriculum change, complete the chart on the next page. List in the appropriate column the human and material resources that could be utilized in initiating, implementing, and evaluating curriculum change.

   Discuss your chart with other members of the class and expand your chart to include appropriate resources that have been suggested by others.

   Optional

   Make an overhead transparency of the chart. As a small-group activity, fill in the chart. Identify resources, determine appropriate positions on the chart, and explain the uses of the resources.

CURRICULUM - HUMAN AND MATERIAL RESOURCES

	INITIATION		IMPLEMENTATION		EVALUATION	
	HUMAN	MATERIAL	HUMAN	MATERIAL	HUMAN	MATERIAL
Example	Advisory Committee	Existing Curriculum Guides	A-V Technician	Surplus Equipment	Program Graduates	Follow-up Studies, Forms

2. As a means of studying change agent functions, sit in on a meeting of an advisory or policymaking group. Identify behaviors of various group members:

   - How did they communicate needs?
   - Who was most effective in clarifying and documenting needs? Why was he or she effective?
   - What methods were used to elicit suggestions and relevant information?
   - Were there differences of opinion? If so, how were they handled?
   - Were suggestions and relevant information summarized? By whom? How?
   - Was there agreement on a plan of action? How was this reached?

3. The ability to participate in a leadership capacity in advisory and policymaking groups can be both practiced and tested in real or simulated situations such as we have listed below. If possible, plan for and schedule the following experiences.

   - Present and defend a curriculum change to a state board of education, a policy board of a school, or other educational institution.
   - Chair a meeting in which teachers with varying points of view are to make decisions regarding the purposes or the format of a curriculum change.
   - Moderate an open forum for the public regarding a major change.

4. Role-playing activity.

   Directions to instructor

   a. Review basic principles of group leadership and interaction. Students in the program undoubtedly have background and study in group processes, working with advisory committees, and leadership. Therefore, it should be possible to summarize these principles rather quickly in a recall and sharing session.

b. Select one or both of the role-playing situations for use. The exercise offers two different situations in which the students participate in advisory committee meetings. Use of both situations provides a better basis for review and discussion. Each of two groups of students may be assigned one situation or one group may participate in both situations.

c. Assign roles. Seven roles have been identified. Additional roles, such as a student representative, may be added at your discretion.

d. Assign chance cards. Each role has associated chance cards, which are designed to affect the behavior of the role player. Make copies of the chance cards in the text to distribute to participants. Only the person assigned the role should be aware of the personal characteristics that have been identified in the chance card. These personal characteristics may be revealed after the role-playing session.

It is suggested that each role-playing situation be videotaped or audiotaped for review. Allow adequate preparation time for the role-playing participants to familiarize themselves with the role and the associated behaviors identified in the "chance" cards. Directions for the participants, the two situations, the roles, and "chance" cards follow.

Directions to participants

Assume that there have been meetings between teachers and the vocational director; the director has conferred with administrators; needs assessments have been made; an advisory committee has been organized and has had two or more meetings. A general format for a new program has been developed.

The meeting you are role playing is to last 50 minutes. Maintain your role throughout the duration of the meeting. Questions you would like to ask or comments you would like to give can be made later.

In addition to the general descriptions of the role given, each participant will be given a chance card on which certain personal biases or characteristics are identified. These are not to be shared with other members of your group before the role-playing session.

Situations

Situation A will be considering the introduction of a secondary-level program in Industrial Arts Education based on a job-cluster concept. This involves dropping the current traditional Industrial Arts courses for grades 11 and 12.

Situation B will be working on the revision of the Business and Office and Distributive Education program to include preparing persons for all aspects of the transportation industries and tourism.

Roles

To participate in this role-playing experience, you need to prepare for roles. This may require some additional reading, review of course notes, and conferring with knowledgeable persons.

- Vocational Director (Curriculum Specialist):

  (1) will chair the planning meeting and, in doing so, put into practice best principles of group process.

  (2) has internalized concepts of curriculum planning and thoroughly understands the component parts and structure of a curriculum plan.

  (3) can "translate" occupational tasks into educational objectives and recognizes the relationship of objectives to learning experiences, teaching materials, and evaluation.

  (4) will work toward consensus where needed and identify next steps.

- Local School Administrator:

  (1) sees the program in relation to total vocational program of the school.

  (2) takes responsiblity in this planning session for seeing that the program is philosophically sound and consistent with total school philosophy.

- Teacher:

  (1) has a good background in teaching methods, including successful experience and knowledge of theories

of learning upon which instructional programs can be grounded.

(2) knows what learning is, how it occurs, and how it can be controlled and directed.

(3) can make judgments about the kinds of experiences needed to achieve employable competency.

(4) recognizes impact of socioeconomic background of learner, individual differences, and individual needs upon learning.

- Chairperson of Advisory Committee--Representative of Occupation:

(1) was chosen as chairperson of the advisory committee.

(2) is thoroughly acquainted with the occupation for which the program is to prepare workers.

(3) recognizes the essential knowledge, skills, and attitudes required as well as the working conditions and reasons why some workers seem to be more successful than others.

(4) can describe the job and tasks carried out by workers.

(5) is thoroughly acquainted with concerns of labor unions and understands apprenticeship programs and arrangements for work or clinical experience.

- Vocational Counselor:

(1) has accurate information concerning characteristics of the students.

(2) is prepared to assist in selection of students that will make placement possible and is not discriminatory.

(3) will be responsible for placement and follow-up.

(4) has also made a study of employment and training needs for this occupation within the immediate area and other places where students may migrate.

- State Consultant (State Supervisor):

  (1) knows the number and kind of similar programs in the state as well as some of the strengths and weaknesses of these programs.

  (2) has state vocational education standards and criteria well in mind and is prepared to assist in getting a plan written in a form to be submitted for approval.

  (3) gives emphasis to accountability.

- Secretary:

  (1) may occasionally ask questions to clarify decisions.

  This role will be assumed by the instructor.

Chance cards

These are the "chance" cards referred to in the general directions. Only the person assigned the role should be aware of the personal characteristics he or she has been assigned.

- Vocational Director:

  (1) You do not have much confidence in the teacher; and you often repeat--with slight variation--information given by the teacher.

  or

  (2) You are really concerned about your own status with the state consultant. You believe that both the kind of state-federal support the school gets and your own potential employment opportunities are dependent on making a good impression.

- Local School Administrator:

  (1) You are still convinced that the current program can meet the need, and direct many questions to all members of the group related to "why do we need a new program?"

  or

(2) You are "over-sensitive" to state criteria and standards and tend to view all comments of the state representatives as dictating how to operate a program in your school.

or

(3) You believe strongly in having the community, and parents in particular, involved in final curriculum decisions.

- State Consultant (State Supervisor):

(1) You are very much aware of status--you want the group to feel the state representative has the last word. Add or correct whenever anyone else gives information that might relate to data available in the state office.

or

(2) You are a "born leader." Tend to assume a leadership role in the group--eliciting ideas from others, summarizing, restating questions--and to take over leadership from the vocational director.

- Chairperson of Advisory Committee--Representative of Occupation:

(1) Although the "cluster concept" has been presented at advisory committee meetings, you are still very confused about what this means. (Situation A only)

or

(2) You have worked closely and cooperatively with the school and feel so much a part of the faculty that you do not distinguish between the responsibilities of the school personnel and your responsibilities as an advisory committee member.

or

(3) It is evident that you are somewhat skeptical about the program planned and are not sure the school can develop the competencies needed to perform the job.

- Vocational Counselor:

  (1) You have great concern for minorities--i.e., their rights and the need to develop programs of particular interest or value to minorities.

  or

  (2) You believe the teacher needs your support, so endorse the teacher's statements and encourage the teacher whenever possible. You do this in addition to making your contributions as a Vocational Counselor.

- Teacher

  (1) Your ideas are generally based on first-hand knowledge of what other teachers do--or what is done in other schools. You will not be secure in the new program until you have been able to observe a similar program.

  or

  (2) You have recently taught at another school that had a similar program and are a bit impatient with going through "all this" planning process.

  or

  (3) You have a tendency to want to teach others in the group all you know about curriculum development or learning principles or the skills and knowledge needed for this occupation.

Summary

In this module you learned about change in vocational education--like taxes, one other sure thing with which you will have to deal. You picked up the language of change with such terms as "change agent," "client," "diffusion," "dissemination," "implementation," and "utilization." You discovered that people most likely to accept change are risk-takers: they are usually liberal, have an upper income and education, live in homogeneous and cosmopolitan communities, and are young. You also learned that the innovative programs most likely to be accepted will be consistent with the users' values, past experiences, and needs; easy to understand and use; capable of being experimented with on a limited basis; visible; relatively low in cost; and designed with acceptable training, servicing, space, and planning requirements.

You learned what it means to be a change agent, and using your personal experience, you identified personnel in a comprehensive high school and a postsecondary vocational school or community college who are potential change agents.

Finally, you learned about the various stages of the change process: evaluation; problem definition; and the selection, implementation, and monitoring of an innovative solution.

Through another learning activity, you assumed the role of a director of a large, comprehensive, vocational-technical postsecondary school with major responsibility for reviewing existing programs and making recommendations to the school board for new programs and strategies. In this capacity, you assigned personnel to evaluate, plan, and implement curriculum change. Last but not least, you participated in a role-playing activity in which you had a chance to practice some of the leadership skills required of a change agent when dealing with advisory and policymaking groups.

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APPENDICES

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Glossary

The following terms are frequently used when discussing change.

Adoption--the goal of the diffusion process; the point at which consumers decide to use a specific innovation.

Change agent--a person who facilitates planned change or planned innovation. In the context of this module, the disseminator, marketer, or vocational curriculum specialist is considered a change agent.

Client--the person, group, organization, or community that the change agent serves; the potential user of the innovation.

Communication tactic--any of several ways of presenting information to a prospective client. Communication tactics may vary according to the client's needs.

Consumer--an individual or a group and/or an organization that receives and uses the product of educational research and development; the target of dissemination messages.

Diffusion--the process of transmitting information about an innovation, including the sequential steps of dissemination, implementation, and utilization.

Dissemination--the process through which information about a product is communicated to consumers during the development process to (1) promote consumer awareness of specific research and development program outputs, and (2) induce eventual consumer adoption of the output.

Implementation--the process of carrying out and using an innovation.

Innovation--the idea, product, or change that is new to people and that is the concern of the implementation and diffusion processes.

Integrated approach to diffusion--an approach to diffusion that requires the active participation of the change agent in all phases of program planning, development, diffusion, utilization, and implementation.

Marketing--activities by which a research and development agency's product is promoted, physically distributed, and finally adopted.

Package--a combination of educational products.

Post hoc marketing--an approach to marketing in which the dissemination of information and the distribution of the product are not begun until after the product has been developed.

Product--the end result of research and development program efforts; an educational product may be either a material product (such as a text or game) or a process (such as a teaching strategy).

User--anyone who uses research and development resources to solve his or her problem; synonymous with "client."

Utilization--the process of identifying target audiences and collecting feedback on their understanding and acceptance of innovations.

Individual Study Activity Responses

GOAL 1

1. Refer to the Glossary in this module.

2. The characteristics of people most likely to accept innovations include:

   - liberal
   - upper income and education
   - residence in homogeneous communities
   - residence in cosmopolitan communities
   - youth

3. Initial support is most easily received from risk-takers.

4. Innovations that meet with the easiest acceptance generally:

   - are consistent with the user's values, past experiences, and needs;
   - are easy to understand and use;
   - can be experimented with on a limited basis;
   - exhibit outcomes that are immediately visible;
   - are relatively low in cost; and
   - have acceptable training, servicing, space, and planning requirements.

5. a. An integrated approach involves the users, designers, developers, and the change agent during all stages: planning, development, and implementation. The sequential approach considers these people only during the time in which they are directly involved with an activity.

   b. The integrated approach is more likely to ensure that the innovation meets the needs of and is accepted by those people who will later use it.

GOAL 2

1. Case 1

   a. Be sure to consider such aspects as modifying the program, providing resources, explaining the program to community and school, providing feedback to the research organization, evaluating program effectiveness, placing graduates, etc.

   Case 2

   a. Yes. The change agent should take part in the task analysis and, if possible, the development of the program.

   b. Content may be incorrect, entry level of students incorrect, and design of materials inappropriate for the school.

   c. The need for conducting a needs analysis and population analysis should be discussed. Also, school personnel should have been involved in the development and testing of the program.

   Case 3

   a. Yes. The community was not involved at all.

   b. The change agent could send notices to community businesses or volunteer organizations to see if they could use student repairs or if they could donate supplies and equipment.

GOAL 3

1. The response to this activity will vary with the individual.

Self-Check

GOAL 1

1. Define the following terms:

   a. change agent

   b. client

   c. dissemination

   d. diffusion

   e. implementation

   f. innovation

   g. user

   h. integrated approach to diffusion

2. Describe the characteristics of people most likely to accept innovations.

3. List and describe at least five of the attributes exhibited by programs that are most easily adopted.

GOAL 2

1. Explain the "change agent" concept.

2. What are the general functions or roles of a change agent?

GOAL 3

1. What are the components of planned change in vocational education?

2. What criteria might you use to assess whether to adopt an innovation in vocational education?

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Self-Check Responses

GOAL 1

1. a. change agent--a person who facilitates planned change or planned innovation. In the context of this module, the disseminator, marketer, or vocational curriculum specialist is considered a change agent.

   b. client--a person, group, organization, or community that the change agent serves; the potential user of the innovation.

   c. dissemination--the process through which information about a product is communicated to consumers during the development process to (1) promote consumer awareness of specific innovations, and (2) induce eventual consumer adoption of the outputs.

   d. diffusion--the general term used to describe the complete procedure of dissemination, implementation, and utilization. Diffusion includes the process of informing others about an innovation.

   e. implementation--the process of carrying out and using an innovation.

   f. innovation--the idea, product, or change that is new to people and that is the concern of the implementation and diffusion process.

   g. user--the person or group that will use the innovation.

   h. integrated approach to diffusion--an aproach to diffusion that requires that the change agent participate in all phases of program planning, development, dissemination, implementation, and utilization.

2. • liberal

   • upper income and education

   • residence in homogeneous communities

   • residence in cosmopolitan communities

   • youth

3. Consider the answer correct if it includes any five of the following:

   - consistent with the user's values, past experiences, and needs;
   - easy to understand and use;
   - can be experimented with on a limited basis;
   - exhibit outcomes that are immediately visible;
   - are relatively low in cost; and
   - have acceptable training, servicing, space, and planning requirements.

GOAL 2

1. A "change agent" is any person or group having three characteristics: a system of ideas that the change agent has invented or subscribed to; an active commitment to these ideas; and the ability to institutionalize, to actualize, and to perpetuate the ideas.

2. Five general functions of the change agent include the following:

   - Involving potential users in the development and selection of programs
   - Informing potential users about programs
   - Demonstrating the effectiveness of programs
   - Training staff to use the innovative program
   - Servicing and maintaining implemented innovations

GOAL 3

1. The components of planned change in vocational education include evaluation; problem definition; and selection, implementation, and monitoring of an innovative solution.

2. What are its benefits--in terms of individual pupil growth, program operations, society and the economy, credibility, and assurance of soundness and of operational assistance? What are its costs--in terms of funding, time considerations, installation considerations, organizational change, personnel needs, space requirements, and equipment requirements?

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VECS Module Titles

Module 1: Vocational Educators and Curriculum Management

Module 2: The Scope of Vocational Education

Module 3: Organization of Vocational Education

Module 4: Legislative Mandates for Vocational Education

Module 5: Priorities in Vocational Education

Module 6: Vocational Education for Students with Special Needs

Module 7: Vocational Needs Assessment and Curriculum Development

Module 8: Conducting Task Analyses and Developing Instructional Objectives

Module 9: Selecting Instructional Strategies and Assessing Student Achievement

Module 10: Relating Learning Differences and Instructional Methods

Module 11: Selecting and Preparing Instructional Materials

Module 12: Evaluating Vocational Education Curricula

Module 13: Conducting Follow-Up Studies and Communicating Evaluation Results

Module 14: Managing Vocational Education Programs

Module 15: Preparing for Curriculum Change

Module 16: Staff Development